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DIRECT BROADCAST SATELLITES: INTERNATIONAL REPRESENTATION AND DOMESTIC REGULATION

TWENTY-EIGHTH REPORT

BY THE

COMMITTEE ON GOVERNMENT OPERATIONS

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AUGUST 12, 1982.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

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LETTER OF TRANSMITTAL

HOUSE OF REPRESENTATIVES,
Washington, D.C., August 12, 1982.

HON. THOMAS P. O'NEILL, JR.,
Speaker of the House of Representatives,
Washington, D.C.

DEAR MR. SPEAKER: By direction of the Committee on Government Operations, I submit herewith the committee's twenty-eighth report to the 97th Congress. The committee's report is based on a study made by its Government Information and Individual Rights Subcommittee.

JACK BROOKS,
Chairman.

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AUGUST 12, 1982.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

Mr. BROOKS, from the Committee on Government Operations, submitted the following

TWENTY-EIGHTH REPORT

BASED ON A STUDY BY THE GOVERNMENT INFORMATION AND INDIVIDUAL RIGHTS SUBCOMMITTEE

On August 10, 1982, the Committee on Government Operations approved and adopted a report entitled "Direct Broadcast Satellites: International Representation and Domestic Regulation." The chairman was directed to transmit a copy to the Speaker of the House.

I. INTRODUCTION

Even in this time of rapid technological development, few experimental technologies arouse the intense interest and controversy which surround the development of direct broadcast satellites (DBS) for television broadcasting. Television has an immediacy and an impact on its audience unlike any other form of communication. The unique character of television fuels the DBS debate.

For over a decade, the potential use of direct broadcast satellites for television transmission has been debated in the United Nations and other international organizations. Recently the debate has moved closer to home with the authorized development of DBS for use in the United States.

The Subcommittee on Government Information and Individual Rights of the House Government Operations Committee explored issues surrounding the development of DBS with the Chairman and

Commissioners of the Federal Communications Commission.[1] Since that hearing, the Subcommittee has raised additional questions, comments have been received by the Subcommittee from other interested parties, and certain issues related to DBS have been addressed in subsequent hearings.[2] While the subcommittee initially sought to limit its investigation to international DBS issues, it was impossible to limit the discussion to this one aspect of DBS use. It is difficult to separate the international and domestic questions raised by the development and use of direct broadcast satellite systems.

This report seeks to describe the elements of both the domestic discussion of the implementation of DBS services and the international debate on the scope and nature of DBS services. The report also recommends specific issues to be pursued by U.S. policymakers, particularly the Federal Communications Commission, affecting the development and deployment of DBS systems.

II. FINDINGS

1. The capability of direct reception by individual home units makes television broadcasting by Direct Broadcast Satellite (DBS) unique and controversial.

2. A Regional Administrative Radio Conference (RARC), scheduled for 1983, will allot frequencies and orbital positions for DBS to the nations of the Western Hemisphere, and thus will set the technical parameters for DBS service in this country.

3. DBS technology has not been perfected to the point that it is possible to prevent signals from "spilling over" political boundaries. National sovereignty concerns have caused some nations to call for establishment of international regulatory systems providing at least "prior consent" and at most regulation of program content.

4. The deployment of DBS TV offers the prospect of the opening of a large consumer market for services and related electronic equipment.

5. DBS TV in the United States can advance the objective of the Communications Act of 1934 to make service available to all the people of the United States since its signal can reach unserved and underserved regions of the country.

6. Authorization of domestic-U.S. DBS services will result in the displacement of fixed satellite services (FSS) and terrestrial microwave services now operating in the 12.2–12.7 gigahertz (GHz) band.

7. DBS TV systems operating in the United States will be national or regional television broadcasting systems.

a. Given the nature of these systems, the ability of individual communities to affect the programming through application of local community standards will be diminished. It will be further diminished if the Federal Communications Commission (FCC) does not exercise its authority to regulate obscene or indecent programming.

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[1] ***Federal Communications Commission Oversight,*** Hearings before the Subcommittee on Government Information and Individual Rights, House Government Operations Committee, September 16 and 22, 1981. Th discussion of DBS issues occured on September 22. Witnesses before the subcommittee included: Mark S. Fowler, Chairman, Federal Communications Commission; James Quello, Abbott Washburn, Joseph R. Fogarty, Anne P. Jones, Mimi Weyforth Dawson, and Henry Rivera, Commissioners, Federal Communications Commission; Kalmann Schaefer, Assistant for International Communications, Federal Communications Commission. [Hereinafter cited as Hearings.]

[2] Hearings held by the Subcommittee on Government Information and Individual Rights, House Committee on Government Operations, March 3, 1982 and April 29, 1982. Hearing held by the Subcommittee on Telecommunications, Consumer Protection, and Finance, House Committee on Energy and Commerce, December 15, 1981.

b. The implementation of these national or regional systems could prove inconsistent with the local nature of current television broadcast licensing in the United States since these systems will be incapable of providing locally-oriented public service programming.

8. The make-up and preparation of U.S. delegations to international communications conferences have been hindered in the past by lack of coordination among responsible agencies and conflict of interest rules applicable to private-sector participants. These problems have not been alleviated and may be compounded by reduction in funding of the FCC.

III. RECOMMENDATIONS

1. In preparation for the 1983 Regional Administrative Radio Conference (RARC), the U.S. government should develop negotiating positions which:

a. are based upon an assessment of U.S. needs for DBS TV services;

b. recognize the future spectrum needs of other Western Hemisphere nations; and

c. preserve technical flexibility in the deployment and use of DBS TV systems.

2. The Committee supports U.S. government opposition to efforts within the U.N. Committee on the Peaceful Uses of Outer Space (COPUOS) to restrict DBS TV broadcasts intended for domestic consumption only through the imposition of a "prior consent" or "program content" policy or restriction.

3. While the flexible regulatory approach taken by the FCC toward authorization of domestic DBS TV services is commendable, the FCC should, prior to the deployment of a DBS system, assess the impact of dislocation of those services now operating in the 12 GHz band and determine whether or not compensation should be provided to aid the displaced users in relocating to another frequency.

4. The FCC should ensure the performance of public service obligations of DBS TV licensees, whether licensed as broadcasters or as common carriers. The FCC should continue to respond to and act upon citizen complaints pursuant to its statutory duty to act in the public interest.

5. Congress must quickly resolve the issue of whether participation by the private sector delegates in planning for international telecommunications conferences constitutes a conflict of interest in domestic regulatory proceedings.

6. The FCC must make certain the adequate funding resources are made available for its participation in the upcoming 1983 RARC and subsequent international communications conferences.

IV. DISCUSSION

A. Background

1. DBS Technology and Development

Broadcasting systems rely increasingly on satellites to relay signals. The signals are transmitted from one earth station to another for retransmission by conventional terrestrial means, either broadcast or cable. The development and use of direct broadcast satellites promises

to revolutionize the delivery of television programming, permitting relay from satellite directly to the home without retransmission.

A direct broadcast satellite is a satellite launched into geostationary orbit approximately 22,300 miles above the Earth's surface. The geostationary (also called geosynchronous) orbit allows the satellite to maintain a constant position in relation to the Earth's surface, vital for the purposes of economic DBS service. Unlike other satellites now used to relay signals, direct broadcast satellites could broadcast signals for reception either by community or by home receivers. Community receivers would serve cable systems, educational facilities, or multiple dwellings, such as apartment houses (a service which is, to a certain extent, already available). However, it is the direct reception by individual home units that makes DBS service unique and controversial.

Satellites employed for DBS systems must have powerful transmitters designed specifically to transmit to small, inexpensive receivers. Unlike the earth terminals now in use for cable television systems where the antennas are large (10 meters in diameter), DBS antennas located at individual homes will be small (approximately 2 feet in diameter). Such an antenna, commonly referred to as a "dish," would be coupled to a home set by an antenna cable in much the same fashion as rooftop antennas currently in use.

The DBS receiving system presents a major challenge in terms of technology. Since the satellites will broadcast in the 12 gigahertz (GHz) band, a frequency that cannot be employed directly for television reception with conventional TV receivers, the transmission must be converted first into an intermediate frequency before final transmission to the receiver. An indoor electronic units will further process and amplify the television signal. Since it is very likely that a substantial portion of the DBS transmissions will be encoded to ensure against piracy, the unit will also serve to decode the scrambled television signal.[3] Obviously, a receiver that performs all these functions is not simple. Yet, for DBS to be truly feasible, receivers and accompanying electronic equipment must be readily available at a reasonable price. This matter will be discussed later in the report.

Active work on DBS services began in the United States in 1974 with the launch of the ATS–6 Satellite by the National Aeronautics and Space Administration (NASA). The ATS–6 satellite carried a number of subsystems, two of which were used for television broadcasts. One subsystem was used for a joint venture between NASA and India. The subsystem was loaned to India for one year beginning in June of 1975 providing educational broadcasts to villages. The other subsystem was used by the United States for educational television experiments (tests conducted by NASA, the Corporation for Public Broadcasting, and the Department of Health, Education and Welfare).[4]

The United States is, however, not the only nation that has experimented with DBS television systems. In 1978, both Japan and Canada launched their own DBS experiments. The Japanese BSE (Broadcast Satellite Experimental) system was launched in April 1978. The BSE

[3] Fawcette, James, "Direct Satellite TV: The 12-GHz Challenge," High Technology, January/February 1982.

[4] Pattan, B., "Technical Aspects Related to Direct Broadcasting Satellite Systems," Office of Science and Technology, Research and Analysis Division, Federal Communications Commission, September 1980, p. 2–36.

satellite is now inoperable due to the failure of its power system. However, a BSE–2 satellite is under construction with an expected launch in 1984.[5]

Placed in orbit in December 1978, the Canadian Anik-B satellite has an anticipated design life of seven years and carries six channels.[6] In part, this technology was based on information gained through Canadian experience with their Communication Technology Satellite launched in 1976. In 1983, Canada is expected to continue DBS development with the launch of Anik-C, a 16-channel satellite with a design life of ten years.[7]

In 1983, Germany and France are expected to launch a pair of "preoperational satellites" which will provide national distribution of television. A fully operational DBS system is expected by 1985.[8]

Other nations are expected to follow in establishing DBS systems for television broadcast. The list includes the Scandanavian nations, Italy, Australia, and Luxembourg.[9] In the case of Luxembourg, Radio-Tele-Luxembourg (RTL) is expected to offer TV service as a commercial alternative to nationalized television programming. The planned DBS service would broadcast three services, in French, German and Dutch or English. RTL will produce its own programs, including an international news service. Its broadcasts will reach an audience of 80 million in France, Belgium, Holland and West Germany. The projected start-up cost is $350 million. This system is very controversial because of the fact that it is designed to serve other nations in addition to Luxembourg and the system is commercial in nature. Most of the broadcast systems now operating in Europe are government controlled and commercial interests, particularly advertising, are very limited, adding to the controversy surrounding the RTL broadcasts.[10]

The DBS systems already launched by Western governments have been experimental. The Soviet EKRAN system launched in 1976 is, however, an operational DBS system.[11] The EKRAN satellite is in service to deliver entertainment programming as well as to provide a working laboratory for continuing experiment and development.[12]

This long, and growing, list of nations working toward the development of direct broadcast satellite systems reflects the increasing pace of PBS development and, in turn, underscores the potential political conflicts over the process of spectrum allocation and the incidential (or intentional) delivery of television programming across national boundaries. Moreover, it highlights the probability of conflict and competition in the provision of DBS technology and programming services.

2. The International DBS Debate

In the international arena, two organizations (both agencies of the United Nations) affect the future of direct broadcast satellites. One organization deals with technical matters—developing the technical

[5] Id. at 2–41.
[6] Id. at 2–45.
[7] Id. at 2–46.
[8] Fawcette, supra note 3.
[9] Id.
[10] Newman, Barry, "Satellite Invasion: European States Face Problem of Controlling Their Neighbors' TV," *Wall Street Journal*, March 23, 1982.
[11] Pattan, supra note 4, at 2–37.
[12] Id.

and regulatory parameters under which DBS systems will operate—while the other organization debates issues of a more political or social nature.

Three issues are of particular importance in the international DBS debate: 1) spectrum allocation, 2) "spillover," and 3) "prior consent."

a. The ITU and Spectrum Allocation

The International Telecommunications Union (ITU) is charged with the responsibility of managing the electromagnetic spectrum and developing the rules by which nations can use this limited resource with minimum conflict or interference. The ITU was formed in 1932 by the merger of the International Telegraph Union and the signatories of the International Radiotelegraph Convention and became a specialized agency of the United Nations in 1947.[13] The ITU has 155 member nations.

The Administrative Radio Conferences are held by the ITU on either a world (WARC) or regional (RARC) basis in order to consider specific communications matters. For the ITU's purposes, the world is divided into three regions: Region 1 is comprised of Europe, Africa and all of the Soviet Union; Region 2 consists of North and South America; and Region 3 includes Asia and the Pacific.[14]

As far as satellite service is concerned, the debate in the ITU has involved the resolution of primarily technical issues—geostationary orbit, orbital slots and spectrum allocation. The key question is: should frequencies and orbital positions be allotted on an "equitable" basis regardless of need (a priori) or on a "first come, first served" (a posteriori) basis? [15] By definition, "a priori" planning allows for the allotment of frequencies and orbital positions to all nations, regardless of their ability or likelihood of using them. An "a posteriori" plan allots frequencies and orbital positions as they are needed, to whomever requests them first. The United States has opposed a priori planning, alleging that allotment on this basis would result in the inefficient use of the electromagnetic spectrum and geostationary orbit.[16]

At WARC–79, a tentative decision was reached to reserve the 11.7–12.7 GHz band for satellite service, including both direct broadcast satellite and fixed satellite service (FSS). Direct broadcast satellites would operate in the 12.3–12.7 GHz band while Fixed Satellite Service (FSS) would utilize the 11.7–12.1 GHz band.[17]

A Regional Administrative Radio Conference (RARC) has been scheduled for 1983 to resolve the issue of allotting frequencies and orbital positions to member nations. Technical issues critical to the operation of any DBS system will be determined by the 1983 RARC. It is vital that the United States, as a participant in the 1983 RARC, develop and support a flexible DBS strategy. Although no DBS system is now functional in the United States, interim service has been authorized by the FCC. The agreements reached at the 1983 conference will set the technical parameters for DBS service in this country. An assessment of future needs must be made in a reasonable and timely

[13] Smith, Marcia S., "The 1978 World Administrative Radio Conference: Implications for U.S. Preparations for Future ITU Conferences and Space Service." Congressional Research Service, Report No. 81–201 SPR, September 3, 1981, p. 30. [Hereinafter cited as CRS Report.]
[14] Id. at 32.
[15] Id at 35.
[16] Id.
[17] Id at 75.

manner, recognizing the need to provide maximum adaptability for the nature and regulation of U.S. DBS operations.[18]

b. Spillover

The second international DBS issue is the so-called "spillover" problem. Spillover refers to those transmissions that can be received in areas bordering the intended reception area. In other words, the signal "spills over" into a neighboring region. For example, any DBS service directed toward the northern tier of the United States would inevitably spill over into southern Canada.

Although the United States Government has indicated that it is not interested in providing international DBS service,[19] a number of enterprises in this country are certainly interested in providing domestic DBS service, at least on an experimental basis.[20] At this time, the technology has not been perfected to the point that it is possible to contour the broadcast beam finely enough to prevent the signal from "spilling over" into adjacent countries. Anticipating such "spillover" problems, the 1971 World Administrative Radio Conference for Space Telecommunications adopted a regulation concerning unintentional satellite transmissions from one nation into another. Radio regulation No. 428 states:

> In devising the characteristics of a space station in the Broadcasting Satellite Service, all technical means available shall be used to reduce, to the maximum extent practicable, the radiation over the territory of other countries unless an agreement has been previously reached with such countries.[21]

Although the regulation allows some latitude for interpretation, it does contemplate the strictest possible technical protections against unintentional radiation over foreign borders.[22] The regulation will affect U.S. domestic DBS service because of the problem of "spillover" into the neighboring nations of Canada and Mexico. The problem of "spillover" leads to the third area of international DBS debate.

c. COPUOS and "Prior Consent"

The Committee on the Peaceful Uses of Outer Space of the United Nations (COPUOS) has also been embroiled in the debate over DBS. COPUOS indicated its interest in exploring satellite use for both radio and television programs for transmission for direct reception by the general public as early as 1964.[23] A COPUOS working group established in 1968 formulated nine principles in response to its study of existing capabilities and anticipated developments in the satellite field.[24]

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[18] See discussion in Part IV, Section C.

[19] Hearings at 92.

[20] STC's application was unsolicited. Other applicants include CBS, Inc., Direct Broadcast Satellite Corporation, Graphic Scanning Corporation, RCA American Communications, Inc., United States Satellite Broadcasting Company, Video Satellite Systems, Inc., and Western Union Telegraph Company.

[21] "World-Wide Space Activities," Report for the Subcommittee on Space Science and Applications of the Committee on Science and Technology, U.S. House of Representatives prepared by the Science Policy Research Division, Congressional Research Service (September 1977) at 536. [Hereinafter cited as World-Wide Space Activities Report.]

[22] Id.

[23] Id. at 531.

[24] Report entitled: "International Shortwave Broadcasting and Direct Broadcast Satellites: Voice of America, Radio Free Europe/Radio Liberty, Radio Marti." Committee on Government Operations, U.S. House of Representatives, December 11, 1981 (H. Rpt. 97-398) at 15-18.

For the most part, the DBS debate in the Committee on the Peaceful Uses of Outer Space has centered around the issue of "prior consent" versus the free flow of information. Under a scheme of "prior consent," where DBS signals would cross national boundaries, the receiving nation must grant the broadcasting nation specific authority to broadcast programming within the receiving nation's territory. This is a concept strongly advocated by nations such as Canada and Sweden. A policy of "prior consent" would allow receiving nations to exercise some control over the content of broadcasting services available to its citizens, as well as the technical configuration of "prior consent" would allow receiving nations to exercise some control over the content of broadcasting services available to its citizens, as well as the technical configuration of the services. The governments promoting adoption of a "prior consent" policy voice particular concern over the threat of foreign broadcasts to "national sovereignty." The Council of Europe concluded in a report that:

> . . . catchall programs for the whole of the European continent without respect for national or cultural identities may gradually replace our regional and possibly even national broadcasting systems. There will be consequential dangers for our cultural heritage, our minority languages and our cultural pluralism.[25]

Canadian concerns illustrate the parameters of the national sovereignty dilemma. Dr. Oswald H. Ganley, Executive Director of International and Allied Arenas Program on Information Resources Policy, Harvard University, provided the following description of Canadian interest and concern:

> The Canadian government views communications and information resources as being very important to its economy, *and the influx of non-Canadian (mostly American) content in publishing, broadcasting, and film products is seen as a serious threat to a unified sense of Canadian identity.*[26] [Italic supplied.]

The genesis of Canadian concern is the result of extensive government work according to Dr. Ganley:

> Canada is exceptional in being the first country to recognize the full range of connections among the various communications and information resources. It has been the first country to see and extensively study the importance of communications and information to its political and economic processes and to its cultural and legal thinking. Canada has also been among the first to use the newest of these resources specifically to establish strong communications links with its remote areas, and more broadly, to stay in the forefront of the newest technological developments in computers, communications and information dispersal.[27]

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[25] Newman, supra note 10.
[26] *Telecommunications and Information Products and Services in International Trade*, Hearings before the Subcommittee on Telecommunications, Consumer Protection, and Finance, House Committee on Energy and Commerce, April 29 and July 22, 1981 at 9.
[27] Id. at 8.

Although the United States and Canada have a cooperative relationship in the area of satellites,[28] a number of problems are already present and may expand. Ganley stated that there are four well-defined communications satellite issues between the United States and Canada:

> There is a cultural conflict for Canada in its desire for domestic direct broadcasting satellite transmission (DBS–TV), since this raises the specter of the importation of even more U.S. content.
>
> There is a matter of who will get the profits—the U.S. or Canada—and under what conditions, for the types of communications which have until now been handled in a mutually satisfactory way between the Canadian telephone systems (Bell Canada-TCTS) and U.S. Bell, but which in the future may either go to or be affected by satellite transmissions.
>
> Canada, having launched the third of its Anik series of communications satellites, all made by U.S. prime contractors, is now turning to Canadian prime contractors. But economically, Canada cannot afford to plan beyond a fourth Anik series, and even for Anik D, cannot divorce itself entirely from U.S. technological help.
>
> Canada, having successfully experimented with the U.S. on the Hermes (CTS) satellite, now wishes to move to an operational direct broadcasting system for its nation. But this requires U.S.-Canadian and ITU agreement on frequency for which the U.S. and Canada have conflicting needs.[29]

Canada is not the only nation supporting the concept of "prior consent" to protect its culture or national sovereignty. Sweden has strongly supported the philosophy of "prior consent." As is the case with Canada, Sweden has been one of the most active participants in the direct broadcast satellite discussions. In fact, Sweden (and Canada) drafted the "prior consent" principles pending before the U.N. Committee on the Peaceful Uses of Outer Space (COPUOS).[30]

The problem of satellite broadcasts crossing national borders and the fear of the negative effect such broadcast could have on national sovereignty and cultural identity has been debated in other forums. The Council of Europe has actively studied this matter and has expressed great concern over DBS broadcasting efforts.[31]

The United States does not share such concerns in the international arena. The United States argues within the United Nations against "prior consent" and supports minimal regulation of the program content transmitted by DBS. Kalmann Schaefer, Assistant to the Chairman for International Affairs, Federal Communications Commission, outlined the issues involved in the COPUOS debate and the U.S. position:

> . . . the primary objective has been to draft a set of legal principles to govern the use of international DBS.

[28] As an example of transborder satellite traffic, United States and Canadian telephone companies (A.T.&T., U.S. Bell and Bell Canada) have integrated telephone systems and transborder revenues totalling about $500 million per year.
[29] Id. at 13.
[30] World-Wide Space Activities Report at 535.
[31] Newman, supra note 10.

> The primary points of contention have been essentially two: one, prior consent with regard to broadcasting and the second, program content. There are countries that want to frame very rigid principles on these two issues.
>
> The U.S. position has been and, as far as I know, will continue to be to strictly and unequivocally oppose those principles which would restrict the free flow of information.[32]

Expanding on Mr. Schaefer's comments, FCC Chairman Mark Fowler wrote to Subcommittee Chairman Glenn English:

> For about the past ten years, the United States has been participating in the United Nations Committee for the Peaceful Uses of Outer Space. The debate surrounding direct television broadcasting by satellite has been particularly contentious on two issues: Prior Consent and Program Content. The United States has continually opposed the formulation of principles that might contradict our First Amendment. We will continue to advocate a principle of free flow of information and convince other members of the committee that the formulation of principles regarding prior consent of programming and content are not necessary in order to develop a comprehensive, legal regime for international direct television broadcasting service (DTVBS).[33]

Critics of the U.S. position charge that a policy of minimal regulation does not take into consideration cultural and political differences—the position fails to give proper weight to the interest of diversity and the desire for countries to determine the character of their domestic television services.[34]

The advocates of program content regulation include the Soviet Union and Argentina. Program content regulation, as contemplated by its advocates, would provide receiving nations with the authority to approve, or disapprove, specific programing. These draft principles would require the express consent of the nation receiving the foreign broadcasts and that the television broadcast be carried out only by those organizations under government control and in accordance with certain restrictions.[35] Any broadcasts not meeting the criteria would be considered illegal. These draft principles are clearly antithetical to U.S. positions, and are complementary to a policy of prior consent.

3. Economic Opportunity and DBS

Much of the controversy in the international arena over development of DBS appears to be an outgrowth as much of economic as ideological or political concerns, particularly among the industrialized Western nations. Direct broadcast satellites must be extremely powerful in order to provide good video transmission for reception by small

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[32] Hearings at 50.
[33] Id. at 90.
[34] World-Wide Space Activities Report at 535.
[35] Those restrictions include "any material detrimental to the maintenance of international peace and security, which publicizes ideas of war, militarism, national and racial hatred and enmity between peoples, which is aimed at interfering in internal domestic affairs of other states, or which undermines the foundations of the local civilization, culture, way of life, traditions or language." [See World-Wide Activities Report at 534.] (Report of the Working Group on Direct Broadcast Satellites on the Work of its Fifth Session to the Committee on the Peaceful Uses of Outer Space, U.N. Document A/AC.105/127/Annex II, April 2, 1974.)

home receivers or antennas. Clearly, the potential economic gains through the sale of the necessary DBS ground-based equipment—parabolic antennas or "dishes" and the accompanying electronic hardware—is enormous. A huge consumer market will open.

Other nations recognize the potential for economic gain through the sale of DBS equipment. It has been estimated that at least twenty-six companies in Europe, Japan, and Canada have built prototype receivers. At least one firm in the U.S. has developed a prototype receiver. Although it is not possible to accurately predict actual retail prices, the estimate of manufacturers range from $160 to over $1,000 apiece for the receiving system, varying with the estimates of when the system will actually begin to operate, the antenna demands, and other factors.[36]

Even though the United States is the leader in basic microwave satellite technology, Japan and some European nations are much closer to operational and economically feasible DBS hardware. U.S. industry lags in the development of the DBS home receiver equipment. At the same time, it is probable that the U.S. will become the first large market in the world for spacecasting receivers. Including program services, the U.S. market is estimated to be $2 billion per year within the first few years of DBS operation.[37] Similar markets will probably develop in parts of Europe, Japan, and Eastern Asia before the end of the century. Those nations who permit the rapid and effective development of DBS services on a domestic basis will provide their businesses with a market in which to develop competitive technology and services which can be adapted for export in these growing markets. The nations who inhibit DBS development will risk their ability to compete in world markets, with incalculable opportunity costs. The ability to develop inexpensive receivers will determine whether DBS television will meet its potential. Receiver development is a challenge because the sophisticated technology must be widely available at a reasonable price. Although the technology is available, at this point in time the receivers are assembled by skilled technicians, in part by hand, and individually tuned resulting in prohibitive cost for the mass market. However many engineers are confident that the receivers can be produced in mass if, and when, the market develops.[38]

No insurmountable technical barriers to the implementation of DBS are evident; the needed advances in basic satellite technology have already been achieved.[39] However, other issues, particularly regulatory considerations, such as spillover, as discussed earlier in this report, are unresolved. Those issues exist not only on the international level but on the domestic level as well.

B. Domestic Aspects of DBS

1. Federal Communications Commission Action

The Federal Communications Commission's fundamental policy mandate is "to make available, so far as possible, to all people of the United States a rapid, efficient, nationwide, and worldwide wire and radio communication service with adequate facilities at reasonable

[36] Fawcette, supra note 3.
[37] Id.
[38] Id.
[39] Pattan, supra note 4 at 1–1.

charges." [40] As Chairman Fowler stated the mandate of the Federal Communications Commission:

> . . . the broad statutory mandate contained in the Communications Act as well as in the Communications Satellite Act of 1962 make the Commission the central agency of the Federal government for nearly all telecommunications matters and empower the Commission to promote nationwide and worldwide wire and radio communications service.[41]

On October 29, 1980, the Federal Communications Commission began consideration of domestic policies for direct broadcast satellites with a *Notice of Inquiry*,[42] requesting public comment on the development of regulatory policy for DBS systems in the United States. The purpose was to begin a process to establish regulatory policies for DBS. The Notice described the goals of that policy:

> We think the public interest requires that we pursue three goals: efficient use of the spectrum (including the balance between DBS and other services), opening new channels to allow an opportunity for diversity of voices in order to further the goals of the First Amendment, and satisfaction of consumer's preferences for programming.[43]

Among the DBS issues to be considered by the FCC are spectrum allocation and orbit assignment for the U.S., associated preparations for the 1983 Regional Administrative Radio Conference,[44] and the development of permanent regulatory policies for domestic DBS service (ownership and control, program content, and appropriate regulatory classification).[45]

a. Interim DBS Service

While seeking responses to the issues raised in its Notice, the FCC also indicated its interest in authorizing domestic DBS service on an experimental or interim basis. No permanent service can be authorized at this time; frequencies were allocated for DBS service by the 1979 World Administrative Radio Conference, but final allotments to the United States will not be made until the 1983 Western Hemisphere (Region 2) RARC. Until such allotments are finalized, only interim DBS service may be offered in this country. The Federal Communications Commission specifically requested public comment on the following issues with regard to interim authorization:

> (1) Should the Commission permit a DBS system to operate on an experimental basis prior to the 1983 RARC? If so, under what conditions? For example, should the experiment include nationwide coverage?

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[40] 47 U.S.C. 151.
[41] Hearings at 27.
[42] 45 F.R. 72719 (November 3, 1980).
[43] Id.
[44] The FCC is pursuing this matter in a separate proceeding as well (Docket 80-398). This FCC action is outlined in greater detail later in this report.
[45] At the time of release of its Notice of Inquiry, the Federal Communications Commission also issued two staff reports for comment: *Policies for Regulation of Direct Broadcast Satellites* by Florence O. Setzer, Bruce A. Franca, and Nina Cornell (FCC, 1980), and *Technical Aspects Related to Direct Broadcast Satellites* by Bruno Pattan (FCC, 1980). In fact many of the comments requested in the Notice of Inquiry relate to the reports.

(2) If the Commission permits an interim DBS system, how should it be authorized? For example, should the experiment be authorized under Part 5 of the Commission's Rules, *Experimental Radio Services (Other than Broadcast)*; under Part 74, *Experimental, Auxiliary, and Other Program Distributional Services;* under some other existing part of the Commission's rules; or should it be authorized under some new part where all the requirements unique to this service may be covered? Would a new part be more in keeping with the notion that the Commission is not prejudging the issue of what regulatory framework should be applied to DBS?

(3) What regulatory or other constraints, if any, should be placed on a DBS experiment?

(4) How much spectrum should be made available to an interim DBS system? Should the DBS experiment share spectrum with existing terrestrial microwave systems or should exclusive frequencies be made available?

On December 17, 1980, the FCC received an application from Satellite Television Corporation (STC), a subsidiary of Communications Satellite Corporation (Comsat), requesting authorization to begin construction of satellites for use in a DBS system. The FCC included portions of the STC application relevant to interim DBS service in the record being built by its Notice and requested public comment.

The distinguishing feature of television broadcasting by DBS is the ability of such systems to serve individual homes located across this country—in particular homes located in remote or rural areas. It is estimated that 1.2 million households in the United States are without access to any television service. Over 4 million households receive only one or two channels, and the signals they receive are often not the best quality.[46] DBS can provide these households with quality television service. In its comments to the subcommittee, STC testimony stated:

> DBS will advance the Communications Act's objective of making modern telecommunications service available "to all the people of the United States." Despite the wide availability of television in our society, there are millions of homes that receive only one or two channels or which receive no television at all. In addition, tens of millions of homes do not have access to subscription television. These homes are not likely to be served by cable or other terrestrial media, but a satellite can broadcast to them as easily as to homes in major cities, and with the same signal quality. Thus, DBS will bring rural Americans one step closer to communications parity with their urban counterparts. The FCC has emphasized the "unique capability" of DBS to provide video services to rural and remote areas that are underserved by existing television services.[47]

The lead time required for the development of a direct broadcast satellite system is at least three years. It is highly unlikely that any company in the United States could launch a DBS system until 1985.

[46] 46 F.R. 30124, 30128 (June 5, 1981), citing Satellite Television Corporation, *Application, Vol. 1, Overview of Proposal System and Regulatory Framework*, at 14.
[47] Hearings at 125.

The Commission is aware of these time constraints, as Commissioner Washburn explained to the Subcommittee:

> I do not believe that any of these systems are apt to be flying before the middle of the decade, so 1985 would be the earliest probably.[48]

Not only is the investment of time significant, the financial investment involved in launching a DBS system is substantial. STC estimates that an investment of $400 million would be necessary to serve the Eastern time zone alone.[49] STC, which submitted the most detailed application to the FCC,[50] projects that its 3-channel service will cost subscribers $14 to $18 per month. The purchase and installation of the antenna would cost $100. Under the STC plan, the necessary electronics involved in the system could be leased at a monthly charge ($8–$10 per month) or purchased.[51] The purchase of the associated electronic equipment would be several hundred dollars.[52]

Subsequent to the filing of the STC proposal, thirteen other applications have been filed requesting authorization to offer interim DBS service. On October 22, 1981, the FCC accepted eight of the fourteen applications [53] and, on June 23, 1982, the FCC adopted interim rules for licensing and operation of direct broadcast satellites for domestic use only, clearing the way for action on the nine pending applications.[54]

b. Spectrum Allocation and Shared Use

In approving interim DBS rules, it is clear that the FCC believes the authorization of interim domestic DBS service would strengthen the ability of the United States to negotiate at RARC–83 because the need for adequate orbital and frequency resources would be evident. Opponents of interim authorization have argued that the FCC action to authorize interim DBS service could reduce the United States' flexibility to develop specific proposals for the RARC and would weaken the United States' negotiating position. Some fear that other Western Hemisphere nations would counter U.S. proposals with conflicting allocation schemes or that interim authorizations would increase the likelihood of the RARC adopting a priori planning.[55]

In its Notice of Proposed Policy Statement and Rulemaking (June 1, 1981), the FCC indicated its belief that other Region 2 governments would be willing to accommodate immediate U.S. needs and that the existence of definite DBS proposals could assist in formulating realistic, detailed U.S. plans. The Commission concluded that arguments for delaying the authorization of DBS until after RARC–83 because of possible adverse reaction by other Region 2 nations were not persuasive.[56] Responding to the comments of those opposed to interim authorization, the FCC stated:

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[48] Id. at 35.
[49] Fawcette, supra note 3.
[50] According to a statement made by Commissioner Washburn, the STC (Comsat) application was the only detailed application received (Hearings at 34).
[51] Hearings at 124, statement of Satellite Television Corporation.
[52] Id.
[53] The STC application had been accepted previously. "News," Federal Communications Commission, Report No. 16654, October 22, 1981.
[54] Docket No. 80–603. Report and Order. Federal Communications Commission, adopted June 23, 1982. 47 F.R. 31555 (July 21, 1982).
[55] 46 F.R. 30124, 30134 (June 5, 1981).
[56] Id.

> . . . we believe that we can minimize any inhibiting effect that interim authorizations might have on our negotiating posture by taking two measures. First, we propose to grant interim authorizations subject to a condition that licenses will be required to conform to any final RARC–83 requirements. If applicants are aware that they must bear the costs of eventual compliance with the Conference results we believe that system operators will have a strong incentive to build into their proposals sufficient flexibility to accommodate any reasonable outcome of the RARC. Second, in order not to influence the U.S. position with regard to frequency allotments, we propose to withhold specific assignments of frequencies and orbital locations until after the Conference.[57]

A consequence of authorizing DBS is the displacement of current terrestrial microwave users. Sharing the allocation of spectrum in the 12 GHz band with DBS are fixed terrestrial services, terrestrial broadcasting, mobile services, and fixed satellite services. Terrestrial fixed microwave facilities provide service for business, education institutions, municipal government, and public safety organizations.[58]

The shared use of these frequencies by terrestrial users and DBS would be difficult, if at all possible. Terrestrial microwave signals interfere with the reception of DBS signals. Therefore, priority use of DBS could require the relocation of current users, probably to a higher band.[59]

Another service competing with DBS for the 12 GHz spectrum is fixed satellite service (FSS). FSS facilities are used to transmit voice, data, and video signals in a common carrier mode. According to the National Association of Broadcasters "the demand for fixed satellite use will exceed the supply of available frequencies in the latter half of this decade." [60]

The finite nature of the spectrum makes the consideration of these spectrum allocation conflicts a priority for the FCC. One FCC Commissioner, Anne Jones, voiced concern with the problem of dislocation:

> I had a concurring statement in connection with the vote on DBS in which I indicated a concern, that is indeed growing, that we may have decided prematurely that this type of service was preferable to the other services which would be displaced by DBS.
>
> We are receiving a lot of, I think, very good comments from some of the people who are now using that spectrum indicating that certainly, at least before we authorize anything, we should decide exactly where they are going and make sure there is another place in the spectrum where they can carry on their work.

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[57] 46 F.R. 30124, 30135 (June 5, 1981).

[58] Hearings at 141, statement of the National Association of Broadcasters. Further illustration of the current use of this spectrum by public safety organizations and educational institutions is found in testimony by George V. Tice, Director of Communications, County of Los Angeles, California, and a statement submitted for the record by the Oklahoma State Regents for Higher Education in *Satellite Communications/Direct Broadcast Satellites*, Hearings before the Subcommittee on Telecommunications, Consumer Protection, and Finance, House Committee on Energy and Commerce, December 15, 1981. Serial 97–81, p. 140, 326.

[59] Id. at 142, statement of the National Association of Broadcasters.

[60] Id. at 144, statement of the National Association of Broadcasters.

> I think this is something we are going to have to consider when the comment period expires. In my view at least, there have been some very good comments.[61]

In her statement regarding dislocation and interference, Commissioner Jones expressly noted:

> Terrestrial microwave systems currently occupy the 12.2–12.7 GHz band which would be utilized by DBS. These microwave systems are used by railroads, electrical utilities, manufacturers, local governments and others. Such systems can cause severe interference to DBS home receivers. There are many possible solutions to this interference problem, including the segmentation of the 12.2–12.7 GHz band, added shielding to the terrestrial microwave antennaes and moving the terrestrial microwave systems to another band. Most of these solutions will require changes to the terrestrial microwave systems so the issue of who will pay for these changes must also be addressed.[62]

The FCC has, to a degree, addressed the issue of spectrum sharing and the potential dislocation of existing terrestrial users. In its *Notice of Proposed Policy Statement and Rulemaking*, the Commission concluded:

> Many commenters argue that the authorization of DBS systems in the 12 GHz band could have an adverse impact on operational-fixed microwave systems now operating in this band. They state that these terrestrial systems serve vital functions both in industry and for local governments. They also indicate that there are no adequate substitutes for the 12 GHz band because the lower frequency bands available to this service, such as those at 2 and 6 GHz, are extremely congested and do not provide the bandwidths necessary to accommodate the high-density data and video transmissions that some users require. Further, the higher bands (e.g., 18 and 23 GHz) are not adequate substitutes, according to these commenters, because equipment is not readily available for use in these bands, and the propagation characteristics of the bands make them less attractive. Some commenters also indicated concern about the effects on other services of the use of the 17 GHz band for DBS feeder links.
>
> We believe that the concerns expressed by the commenters deserve serious attention. We do not believe, however, that our concerns for the present operational-fixed microwave users should preclude the introduction of DBS service. We believe the potential benefits of DBS justify some adjustments in other services. Further, we believe that interim rules and policies may be established that permit DBS operation without, in the near term, dislocating existing terrestrial users in the 12 GHz band, and that the Commission can devise ways to minimize the impact of permanent DBS systems on terrestrial users.[63]

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[61] Id. at 34.
[62] Statement of Commissioner Anne P. Jones, FCC, Notice of Proposed Policy Statement and Rulemaking (Docket 80–603), June 1, 1982, 46 F.R. 30124, 30149 (June 5, 1981).
[63] 46 F.R. 30134, 30128–9 (June 5, 1981).

Throughout the process, the FCC has indicated a certain sensitivity to the dislocation of existing terrestrial users of the 12.2–12.7 GHz band. In authorizing interim DBS service, the Commission stated it would continue to license terrestrial users in this band until a report and order are issued allocating alternative Fixed Service (FS) frequency bands. Current terrestrial users can continue to use the 12.2–12.7 GHz band for a period of five years from the date of issuance of the report and order. After the expiration of the five year period, such terrestrial operations would be required to operate on a secondary basis under strict requirements to prevent interference with domestic DBS operations. Terrestrial systems authorized in the future must operate in the same manner.[64] Aside from these guidelines, it is highly unlikely that any terrestrial users will continue to operate in this band. The terrestrial operations will relocate to 12.7–13.25 GHz, 18 GHz or 6 GHz. 12.7–13.25 GHz is the most desirable band for fixed satellite use where the cost of relocation would be $1,000–$2,000 per transmitter. A move to 18 GHz could total $80,000 because of the need for new equipment.[65]

Finally, within some of the DBS proposals, there is proposed a unique service which further complicates the question of spectrum allocation: high definition television (HDTV). HDTV is an improved television system with increased sharpness or resolution, sharply improved color quality, a wide screen aspect ratio, and stereophonic sound; [66] it also uses a substantially greater slice of spectrum to deliver its signals, a 40–50 megahertz bite as compared to 7–10 for conventional TV.

The CBS proposal for interim DBS service proposes the use of high definition television. According to Joseph A. Flaherty, Vice President, Engineering and Development, CBS Television Network, HDTV is intended for viewing on large screen display devices and represents a major improvement in picture quality for both conventional sized and very large displays.[67] CBS believes, as do others, that HDTV/DBS service represents an important technological development and that failure to develop this technology at this time could preclude the availability of adequate spectrum space in the future.[68]

In its June 23, 1982, action, the FCC authorized a flexible regulatory approach with no technical standards imposed beyond those required by international agreement. The FCC determined that the imposition of strict technical standards would restrict the further development of DBS and would limit the offering of new services. Under the FCC rules, DBS operators may offer either high definition or conventional television signals but would not be required to offer either.[69]

The Committee agrees that the issues of interference and dislocation warrant serious consideration and is encouraged by the FCC's attention to the problem. The legitimate needs of other users of the 12 GHz band cannot be lightly dismissed and the impact on such users by the priority assignment of spectrum to DBS must be thoroughly addressed

[64] 47 F.R. 31555, 31566 (July 21, 1982).
[65] "FCC Adopts Interim DBS Rules, Says Approach Will Be 'Flexible'," *Satellite Week*, June 28, 1982 (Vol. 4, No. 25).
[66] Prepared statement of Joseph A. Flaherty, Vice President, Engineering and Development, CBS Television Network, before the Subcommittee on Telecommunications, Consumer Protection, and Finance, House Committee on Energy and Commerce (December 15, 1981), supra note, at 111.
[67] Id. at 110.
[68] Fawcette, supra note 3.
[69] "News," Federal Communications Commission, Report No. 17047 June 23, 1982.

by the Commission at the earliest practicable point. The Committee also agrees with the flexibility the FCC has granted in its consideration of the development of HDTV/DBS services. However, the Committee believes that the FCC must finally resolve the issues of dislocation of current services and spectrum allowance for HDTV before operational authority is granted.

c. Market Impact

To date, the Federal Communications Commission has limited its consideration of DBS service to issues involving the technical parameters of direct broadcast satellites, its relative economics, and public interest findings.[70]

During the course of the September 22 hearing, the members raised questions concerning the impact DBS service could have on the current TV broadcasting system; in particular, its impact on local broadcasting. Another issue members raised was whether there could or would be any regulation of program content broadcast by direct broadcast satellite.

DBS systems will be national broadcasting systems. This fact was highlighted by a recent comment of FCC Commissioner Anne Jones whereby she stated that DBS is by definition a national service not capable of offering local insert.[71] The ability of communities to affect the provision of service will be diminished.

At the September 22 hearing, subcommittee members expressed serious concern over the nature of DBS programming and the ability of a given community to have its standards of decency respected by a broadcast licensee. Although provisions in the Communications Act of 1934 empower the Commission to punish the broadcast of obscene, indecent or profane material,[72] Chairman Fowler stated that they have rarely been used, and that their elimination has been recommended by the FCC.[73] Chairman Fowler explained that, since the U.S. Supreme Court has ruled that local community standards determine what is obscene or indecent, it is very difficult for the Commission here in Washington to determine local community standards.[74]

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[70] Hearings at 37, Statement of Kalmann Schaefer, Assistant for International Communications, Federal Communications Commission.

[71] Communications Daily newsletter, July 1, 1982, at 4.

[72] 47 U.S.C. 303(m)(1)(D), 312(a)(6), and 503(b)(1)(D). These provisions, in turn, permit the Commission to suspend the license of an operator having transmitted communications containing profane or obscene words, language, or meaning; to revoke any station license for violation of section 1464 of title 18 of the U.S. Code; and, to impose a forfeiture penalty of $2,000 on any person who has violated section 1464 of title 18 of the U.S. Code. Section 1464 of title 18, U.S. Code, provides that "(w)hoever utters any obscene, indecent, or profane language by means of radio communication shall be fined not more than $10,000 or imprisoned not more than two years or both." This provision was originally enacted as part of section 29 of the Radio Act of 1927, 44 Stat. 1172, (reenacted as section 326 of the Communications Act of 1934, 47 U.S.C. 326) but was repealed and recodified at section 1464 of title 18 of the U.S. Code when, in 1948, the Criminal Code was revised to include provisions that had previously been located in other titles. PL 80–772.

[73] Hearings at 37; see H.R. 5585, sec. 2 (97th Congress, 2nd Session).

[74] Hearings at 37: The "local community standard" for determination of whether broadcast or print material is obscene was established by the U.S. Supreme Court in *Miller* v *California*, 413 U.S. 15 (1973) which set out the following guidelines for the trier of fact: 1) whether the average person, applying contemporary community standards, would find the work taken as a whole, appeals to the prurient interest in sex; 2) whether the work depicts or describes, in a patently offensive way, sexual conduct specifically defined by the applicable . . . law; and 3) whether the work, taken as a whole, lacks serious literary, artistic, political, or scientific value. Whether the material is "patently offensive" and whether it "appeals to the prurient interest in sex" are questions for the trier of fact, who must apply "contemporary community standards," *Smith* v *U S.*, 431 U.S. 291, 301 (1977). Chief Justice Burger's opinion for the Court in *Miller* provided examples of what could be prohibited by such community standards.

Despite the infrequent use of this authority, the Courts have upheld Commission application of these administrative sanctions on licensees who have broadcast obscene, indecent, or profane material.[75] In these cases, the Commission action was in response to written citizen complaints. The Courts recognized the importance of the medium used to convey the material in their conclusion that the material "as broadcast" was not entitled to First Amendment protection. Justice Stevens' opinion for the Court in the *Pacifica Foundation* case notes that "(b)ecause the broadcast audience is constantly tuning in and out, prior warnings cannot completely protect the listener or viewer from unexpected program content" [76] and that "broadcasting is uniquely accessible to children, even those too young to read." On this latter point, Justice Stevens stated that the Carlin routine "could have enlarged a child's vocabulary in an instant." [77]

The Committee does not suggest that this type of regulation is unfettered or free from uncertainty in its application. The Supreme Court was divided 5–4 in the *Pacifica* case, continuing the tradition of division and struggle within the Court going back over many years in determining whether and to what extent certain material is obscene and not entitled to First Amendment protection. And, since DBS signals will cover broad areas, it is conceivable that programming would violate standards in some communities served by a DBS system, but not others.

Chairman Fowler noted that some citizen groups, concerned with gratuitous sex and violence on television, have had some success in dealing with the companies whose advertising has supported such telecasts.[78] But if DBS services are provided primarily by subscription, the citizen will not have that avenue open to him; his recourse of complaint to the Commission will take on additional importance. Accordingly, the Committee is concerned not only over the Commission's seeming unwillingness to regulate the broadcast of obscene material by DBS, but also its proposal to Congress that it be stripped of its regulatory authority over obscene broadcasts.

Also at issue in the domestic DBS debate is the impact of DBS services on local broadcasting. Will local stations be unable to compete with DBS broadcasting efforts? In response to a question raised by the Chairman of the subcommittee questioning the ability of DBS to serve the local interest, Mr. Fowler responded:

> It may not serve local needs and problems, but it may serve the local needs of the people by providing another source of programming which is not presently available.[79]

Commissioner Abbott Washburn's remarks regarding DBS and localism highlight the elements of the debate:

> Mr. Chairman, . . . localism has been the very basis of the American broadcasting system. That is a consideration the Commission is going to have to look at very carefully in ap-

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[75] *Illinois Citizens Committee for Broadcasting* v *FCC*, 515 F2d 397 (1975) (a daytime talk show discussion of sexual practices); *FCC* v *Pacifica Foundation*, 433 U.S. 726 (1978) (broadcast of comedian George Carlin's "Filthy Words" routine).

[76] Id. See *Pacifica* at 748.

[77] Id. at 749.

[78] Hearings at 39–40.

[79] Id. at 42.

proving applications in this area: To what extent is it likely to dilute the ability of the local stations to serve their communities?

I think we have to weigh that in the balance against the advantages we have been talking about—the increased diversity, the service to areas that are underserved now.

I have not seen anything in what has been presented to us so far that gives me real concern that the local stations are going to hurt. Of course, it is hard to tell. It is a hard thing to analyze. It is certainly a consideration we must take into account in approving these applications.[80]

Certainly increased or improved television reception to those who do not have it makes the development and use of direct broadcast satellite service important. In effect, it is an advancement of the universal service policy embodied in the 1934 Communications Act. However, the provision of locally based and oriented programming is an important element of national broadcasting policy and, in the opinion of the Committee, an element that the Commission should ensure continues.

C. U.S. Representation, Conflict Resolution, and Resource Needs in International Negotiations

In June of 1983, the United States will meet with the other nations of the Western Hemisphere to determine how to use the 11.7 to 12.7 gigahertz (GHz) band for direct broadcast satellite service. The 1983 RARC satellite conference is but one of eight conferences to be held by the ITU over the next six years which the U.S. will attend. The importance of these conferences make it vital that the U.S. have well-prepared representation.[81]

The technical policies and positions of the United States in international conferences considering communications issues, such as the 1983 Western Hemisphere RARC, are developed, and to a considerable degree advanced, through the work of the Federal Communications Commission. The Department of State is also critical to the development and advancement of U.S. positions since the authority to represent, or designate who will represent, the United States falls to the Department of State.[82] The responsibility for coordinating government efforts rests with National Telecommunications and Information Administration.[83] In the matter of RARC–83, the FCC, State Department, and NTIA will formulate U.S. proposals aimed at acquiring frequencies and orbital positions for DBS which will ensure the greatest regulatory and technical flexibility.[84]

Planning has begun for the 1983 RARC. On July 25, 1980, Federal Communications Commission released a *Notice of Inquiry* (Docket 80–398) initiating preparations for the 1983 RARC on Region 2 DBS

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[80] Id.

[81] For example, two WARC conferences are scheduled to consider mobile services (Feb. 1983 and Sept., 1988). In January of 1984, there will be WARCs to consider high frequency broadcasting issues. In effect, over the next six years, there will be conferences involving all kinds of space services including shortwave broadcasting, AM broadcasting, and satellite services.

[82] See E.O. 12046, sec. 5–201.

[83] Id., sec. 2–404.

[84] Luxenberg, Barbara, "Preliminary O.K. for Direct Broadcast Satellites," Astronautics and Aeronautics, September, 1981.

service. The Commission invited comment on the formation of an Advisory Committee to assist in preparation for the conference. On February 24, 1981, the FCC released its Memorandum Opinion & Order and formed the Advisory Committee. In its Opinion and Order, the duties and objectives of the Advisory Committee were outlined.[85]

In further action under Docket 80–398 the FCC requested public comment on its preparations for the 1983 RARC in an effort to form a basis on which the Commission would coordinate with NTIA and the Department of State.

The need for U.S. representatives to coordinate activities has been previously addressed by this Committee. In a report issued at the close of the 96th Congress, when discussing U.S. representation in international communications and information organizations, the Committee found that:

> Unfortunately, agency responses to Subcommittee inquiries illustrate a lack of coordinated and adequate attention to the deliberations and actions of many of these organizations. The inadequacy of agency efforts can be traced in large part to a combination of ill-defined, fragmented authority and limited resources.
>
> The need for Executive agency understanding of the policies of other nations and regional organizations is equally vital, and equally incomplete.[86]

The report also concluded that:

> The United States government needs to more fully and carefully monitor, and prepare to anticipate and respond to, the actions of this variety of international organizations. The offices of the Executive Branch must carry out this responsibility in an integrated and effective manner.[87]

International communications negotiations are increasingly difficult and politicized.[88] Regardless of the merits of the U.S. position on issues of international debate, it will not be possible for the United States to argue those positions without adequate preparation or representation. Without proper preparation and adequate resources, the United States cannot effectively negotiate in the international arena. There is cause for concern over how well prepared the U.S. delegation will be for the 1983 RARC.

According to a recent United States General Accounting Office report prepared for the Government Information and Individual Rights Subcommittee, budget constraints in fiscal year 1982 will have an adverse impact on the international telecommunications activities of the FCC. Under the budget proposals submitted to Congress, the resources allocated to the FCC's international telecommunications activities have diminished. In fiscal year 1983, the GAO estimated the allocation about 72 workyears, or 4.6 percent, of the FCC's total

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[85] Docket No. 80–398, Memorandum Opinion and Order, Federal Communications Commission, adopted February 11, 1981 (released February 24, 1981).

[86] Report entitled: "International Information Flow: Forging A New Framework," House Committee on Government Operations, December 11, 1980 (H. Rept. 96–1535) at 30.

[87] Id.

[88] "Radiofrequency Use and Management. Impacts from the World Administrative Radio Conference of 1979", Office of Technology Assessment, January, 1982 at 49–54. [Hereinafter cited as OTA Report].

workyears will be committed to international activities—a decline of 17 percent from 1982 and 25 percent from 1981.[89]

Corresponding to the reduction in the allocation of workyears to international activities within the FCC, a 30 percent reduction in travel funds has been proposed. This Committee shares the GAO's concern that the reduction in travel funds could adversely affect U.S. participation at international conferences and at preconference planning meetings since the international responsibilities to be carried out by the FCC have in no way diminished.[90] Although the Commission staff indicates the effect of the reductions has not been studied, the FCC's budget justifications submitted to the House Appropriations Committee stated the reductions could impair FCC's ability to pursue U.S. interest in international telecommunications.[91]

Although agencies of the United States government play the major role in representing the United States at international telecommunications conferences, representatives from the private sector play an important role in preparing for such conferences. Therefore, efforts such as the above-mentioned formation of an Advisory Committee by the Federal Communications Commission can be useful when designed to advise the government on conference preparation and negotiations. However, private sector participation is not without its drawbacks. Conflict of interest concerns have affected preparatory efforts.

In 1978, the Department of State, acting on the advice of the Department of Justice, issued new guidelines restricting the role of private sector participants or nongovernmental delegates to international conferences to one of technical assistance [92] based on current law governing conflict of interest.[93] The guidelines bar the delegates from addressing policy issues or serving as spokespersons for U.S. proposals.[94]

The committee can understand and appreciate the concerns that arise from the potential for conflict of interest. Particularly in the matter of the DBS debate, those involved in seeking FCC approval to offer DBS services on a domestic basis could be the same individuals representing U.S. interests in international negotiations. However, these individuals may well be the sole source of the expertise needed to formulate and negotiate U.S. telecommunications interests in international conferences.

The nature of the telecommunications industry in the United States lends itself well to the continuation of the dilemma surrounding private sector representation on U.S. delegations to international conferences. Although regulated by the federal government, a substantial portion of the telecommunications industry in this country is owned and operated on a private basis.[95] Over the years, U.S. representation in international negotiations has reflected the legitimate concerns of both government as well as industry and private sector experts.[96] The imposi-

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[89] "The Federal Communications Commission's International Telecommunications Activities, U.S. General Accounting Office" (Report to the Chairman, Subcommittee on Government Information and Individual Rights, House Committee on Government Operations), (CED–82–77) April 19, 1982, p. 2–3, 7–9.

[90] Id. at 3 and 9.

[91] Federal Communications Commission Fiscal Year 1983 Budget Estimates submitted to Congress and reprinted in Hearings, "Departments of Commerce, Justice and State, the Judiciary, and Related Appropriations for 1983, Part I", House Committee on Appropriations, at 559, 691, 752.

[92] OTA Report at 60.

[93] 18 U.S.C. 203, 205, 207, 208.

[94] OTA Report at 60.

[95] "The World According to Ebel," Broadcasting, June 7, 1982.

[96] OTA Report at 60.

tion of the Department of Justice guidelines changed, at least to a degree, this form of representation by restricting nongovernmental participation.

Congress recog ıized the dilemma posed by the guidelines and in 1978, exempted WARC–79 participants from these guidelines.[97] Unfortunately, the lateness of the Congressional action did little to affect the role of the nongovernment delegates to WARC–79 which began September 24, 1979; their role remained uncertain and the representation of industry delegates at WARC–79 remained low.[98]

Obviously, the matter of industry and private sector expert participation in the planning of international conferences and their role as delegates to those conferences cannot be lightly dismissed. The potential for conflict of interest exists. At the same time, the skills of these industry and private sector individuals in managing the day-to-day communications systems activities should be recognized and utilized to the maximum extent feasible.[99]

The proper role of nongovernment delegates in international conferences must be resolved. To prevent the reoccurrence of a situation like that which occurred in 1978, definitive action should be taken well in advance of the conference. Given the fact that the United States is expected to participate in eight international conferences during the next six years, it would certainly be timely to decide this matter now.[100]

Apart from the issues of private sector participation at international conferences and resource commitments, questions have been raised regarding the overall organizations of the U.S. delegation and its preparations.

There has been a substantial amount of criticism of the U.S. preparatory effort for WARC–79. Although the effort spanned five years and the chairman of the U.S. delegation was selected in January 1978, the remainder of the delegation was not selected until May 1979—only four months before the conference.[101] It should be noted that although the chairman of the delegation, Glenn O. Robinson, was chosen in 1978, he did not assume his duties full time until Spring, 1979.[102]

The State Department has final authority for the selection of delegates.[103] The apparent failure of the State Department to balance the need for a variety of delegates reflecting expertise in not only technical matters but in economics, law, foreign relations, geopolitical history, statistics and policy planning as well, has been a matter of substantial debate and criticism.[104] Some critics have said that too little emphasis was placed on matters other than those of a technical nature.

The difficulties in preparing for WARC–79 have been debated in other forums, and this brief discussion merely serves as a reminder and as a point of comparison to our current preparatory efforts. There appears to be a similarity between the preparatory efforts leading to WARC–79 and the current preparations for upcoming conferences.

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[97] P.L. 96–60 (August 15, 1979).
[98] OTA Report at 61.
[99] OTA Report at 60.
[100] No fewer than three measures pending before the Congress attempt to remedy this situation. S. 1193, the Department of State Authorization Act, Fiscal Years 1982 and 1983, contains a provision designed to alleviate this problem as does S. 2469 and S. 2181. S. 1193 was ordered reported from conference on July 21, 1982. S. 2469 is awaiting action before the Senate Subcommittee on Communications. S. 2181 passed the Senate June 9, 1982.
[101] CRS Report at 14–15.
[102] CRS Report at 43.
[103] CRS Report at 44 and OTA Report at 40.
[104] Id.

The committee is concerned that the failure to resolve the serious matters such as delegate selection and industry representation continues to make it difficult for the U.S. to prepare for these conferences that will have dramatic and lasting impact on the U.S. telecommunications industry. Without proper organization it is clear that proper preparation will be difficult at best.

As an illustration of the continued lack of organization in preparatory efforts, one can look at the efforts to prepare for the Plenipotentiary Conference of the ITU scheduled to take place from September 27 through November 5, 1982. A scarce five months prior to the conference, the State Department announced the chairman of the U.S. delegation, Michael Gardner. As of June 17, three months before the conference date, Mr. Gardner had not received the security clearance needed to provide him access to needed classified information. Mr. Garner, in testimony before the Senate Subcommittee on Communications recognized the problem of late selection:

> . . . I must candidly tell this Committee that, from my point of view, any Chairman of a U.S. delegation is severely hampered when his or her appointment occurs less than five months before the commencement of a major, multi-faceted telecommunications conference such as the ITU's Plenipotentiary. Accordingly, I have been playing a form of catch-up ball, and while I am personally encouraged, there is clearly a great deal more to be done. . . .[105]

The lateness of the selection of Mr. Gardner to head the U.S. delegation underscores the continued lack of organization that plagued WARC–79 and it is hoped that the United States will cease to delay important preparatory decisions.

Another matter to be considered in U.S. preparation for major international conferences is the problem of regional conflicts. Aside from the potential conflicts with Canada (outlined in the section of this report entitled "COPUOS and Prior Consent") United States interests directly conflict with Cuba, another Region 2 nation. This conflict was evident at the recent Conference on AM Broadcasting in Region 2.[106] Because of serious disagreements with the United States based on the current and planned U.S. international broadcasts aimed at Cuba (Radio Marathon and Radio Marti)[107] and the successful U.S. effort to block Cuba's proposal to make critical changes in its AM inventory, the Cuban delegation walked out.[108] Failure to negotiate with neighboring countries may injure the ability of affected nations to use the spectrum effectively. There can be no winners in a spectrum "fight," but the American people and U.S. industry will be certain losers.

In an effort to resolve the problems discussed at the AM Conference, the Cuban delegation indicated that it would participate in bilateral meetings (although it is unclear that the Cubans will meet with

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[105] Statement of Michael Gardner before the Subcommittee on Communications, U.S. Senate Committee on Commerce, Science, and Transportation, June 17, 1982.

[106] "Cuban Walkout Finishes Off Hope of AM Conference Success in Rio," Broadcasting, December 21, 1981.

[107] The matter of U.S. international broadcasts to Cuba has been previously addressed by the Committee. See Report entitled: "International Shortwave Broacasting and Direct Broadcast Satellites: Voice of America, Radio Free Europe/Radio Liberty, Radio Marti," House Committee on Government Operations, December 11, 1981 (H. Rpt. 97–398).

[108] "Cuban Walkout Finishes Off Hope of AM Conference Success in Rio," Broadcasting, December 21, 1981, supra note 106.

the Americans). Increased utilization of bilateral negotiations and the continuation of already-scheduled multilateral negotiations may require a greater resource commitment by all responsible U.S. agencies. The growth of bilateral negotiations, in particular, will require personnel and financial commitment to provide the United States with adequate representation. Given the proposed budget reductions affecting international activities at the Federal Communications Commission and reductions in the Fiscal Year 1983 affecting the National Telecommunications and Information Administration it does not appear that the necessary commitment of personnel and financing will be made available.

On March 3, Chairman Fowler attempted to assure members of the subcommittee regarding the ability of the FCC to meet its international obligations regardless of funding reductions by stating: [109]

> We will be able to meet our international travel obligations. In the past, there have been instances in which every Bureau sent one of its own people to a particular conference when, looking at it from an overall perspective it would not have been necessary to have all of those people there. We have established under the direction of Mr. Schaefer an international telecommunications coordinating committee within the agency. One of the things that committee does, among other things, is look at the overall perspective of the agency to determine who should go to particular conferences. That may mean that someone who had gone from a bureau before to a conference would not go this time because he is not really essential. We will still have the proper representation. We can also reallocate funds from one Bureau to another if the Committee so desires. We have more flexibility than we had in the past because this committee is actively tracking our international travel fund needs and can make adjustments as we go. I think that we will be able to adquately represent our vital interests at conference in Fiscal Year 1983.

The subcommittee remains unconvinced that the anticipated reductions in travel funds will not adversely affect U.S. representation at international conferences. It is clear from Chairman Fowler's statement that unnecessary staff have attended conferences in the past. Given what is at stake at RARC–83 and subsequent conferences, the Committee hopes that the FCC will take steps to guarantee that unnecessary staff will not still participate in those conferences and that those best equipped to deal with the issues at hand will not be left behind.

V. CONCLUSION

The FCC's authorization of DBS domestic service on an interim basis is a positive step. For the first time a number of households in the United States can realistically expect to receive television service. Many other U.S. households would, also for the first time, receive additional diversity in television programing rather than remaining

[109] Oversight of Federal Communications Commission, Implementation of Computer Inquiry II, Hearings before the Subcommittee on Government Information and Individual Rights, House Committee on Government Operations, March 3, 1982.

restricted to receiving one or two channels, in some cases of poor quality. At the same time, the committee is not without reservations regarding the authorization of DBS.

Community-based programming and locally-oriented public service programming could become a thing of the past without careful consideration. This is a matter that the FCC must continue to deliberate even though DBS has been authorized; establishment of an operational DBS service is at least three years away.

While we need to move ahead, however, it must be understood by those interested in developing and launching DBS service that system flexibility is crucial. The unresolved factors (such as optimum spectrum allocation) make system flexibility vital and the FCC properly recognized this fact. All DBS applicants must be aware of, and willing to operate within, the constraints of an evolving policy.

Decisions reached in international forums (most notably the International Telecommunications Union—specifically RARC–83) will affect the operation of DBS service in the United States. Extensive preparation for RARC–83 is necessary to assure adequate flexibility for U.S. DBS operation, as well as the future operation of other satellite and 12 GHz band services. The FCC has engaged in gathering data in order to prepare for RARC–83 through its proceedings under Docket 80–398. It is hoped these preparatory activities will be vigorously pursued.

The Committee questions the conclusion that actions taken by the Committee on the Peaceful Uses of Outer Space (COPUOS) will have no effect on U.S. domestic DBS systems, as was stated by FCC Chairman Fowler in response to questions raised by Chairman English.[110] Since it is not now technologically possible to completely eliminate signal "spillover" into neighboring nations, it appears possible that "prior consent" and "program content" proposals before COPUOS could indeed affect domestic systems and should be carefully and actively monitored.

In much the same manner as international DBS policy debate relates to the operation of DBS on a domestic basis, domestic rulemaking could affect international actions. Domestic DBS authorization on an interim basis—while highlighting U.S. interest in the technology—may affect RARC–83 actions by other nations. The FCC has considered this problem and stated when authorizing domestic DBS services that the policies it will impose on DBS systems will only involve requirements absolutely necessary to prevent frequency interference, to comply with international agreements, and to assure that an interim system would be able to comply with decisions made at RARC–83.[111] The Commission must actively monitor DBS development under its interim authorizations to assure to the greatest extent possible that its interim efforts do not stifle further technological development of DBS.

Finally, RARC–83 will decide spectrum allocation for DBS and terrestrial operations. The United States must make every reasonable effort to assure that its concerns are fully and fairly addressed at the RARC. That assumes a substantial commitment of effort and resources in the next 18 months.

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[110] Hearings at 91.
[111] "News", Federal Communications Commission, Report No. 17047, June 23, 1982.

FCC Commissioner Fogarty observed that "one year of real-world experience would be worth two years of paper proceedings in terms of fully understanding this new technology and its public interest ramifications." [112] The Committee accepts the FCC's judgment that it is worthwhile to move ahead with all deliberate speed but urges that careful deliberation not be sacrificed to speed. It is clear to the Committee that the DBS debate is far from over. We have only begun to understand the questions; the answers remain before us. In the words of former Commissioner Robert E. Lee:

> The impact of DBS could range from nothing to a complete undermining of the locally oriented broadcasting system we have today. Open, robust debate is important.[113]

[112] Separate statement of Commissioner Joseph R. Fogarty, Federal Communications Commission Notice of Inquiry (Docket 80–603), October 29, 1980, 45 F.R. 72719 (November 3, 1980).

[113] Federal Communications Commission Notice of Inquiry (Docket 80–603), October 29, 1980, 45 F.R. 72719 (November 3, 1980).

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